

FIG. 1

CONTROL APPARATUS ACCORDING TO FIRST EMBODIMENT OF PRESENT INVENTION

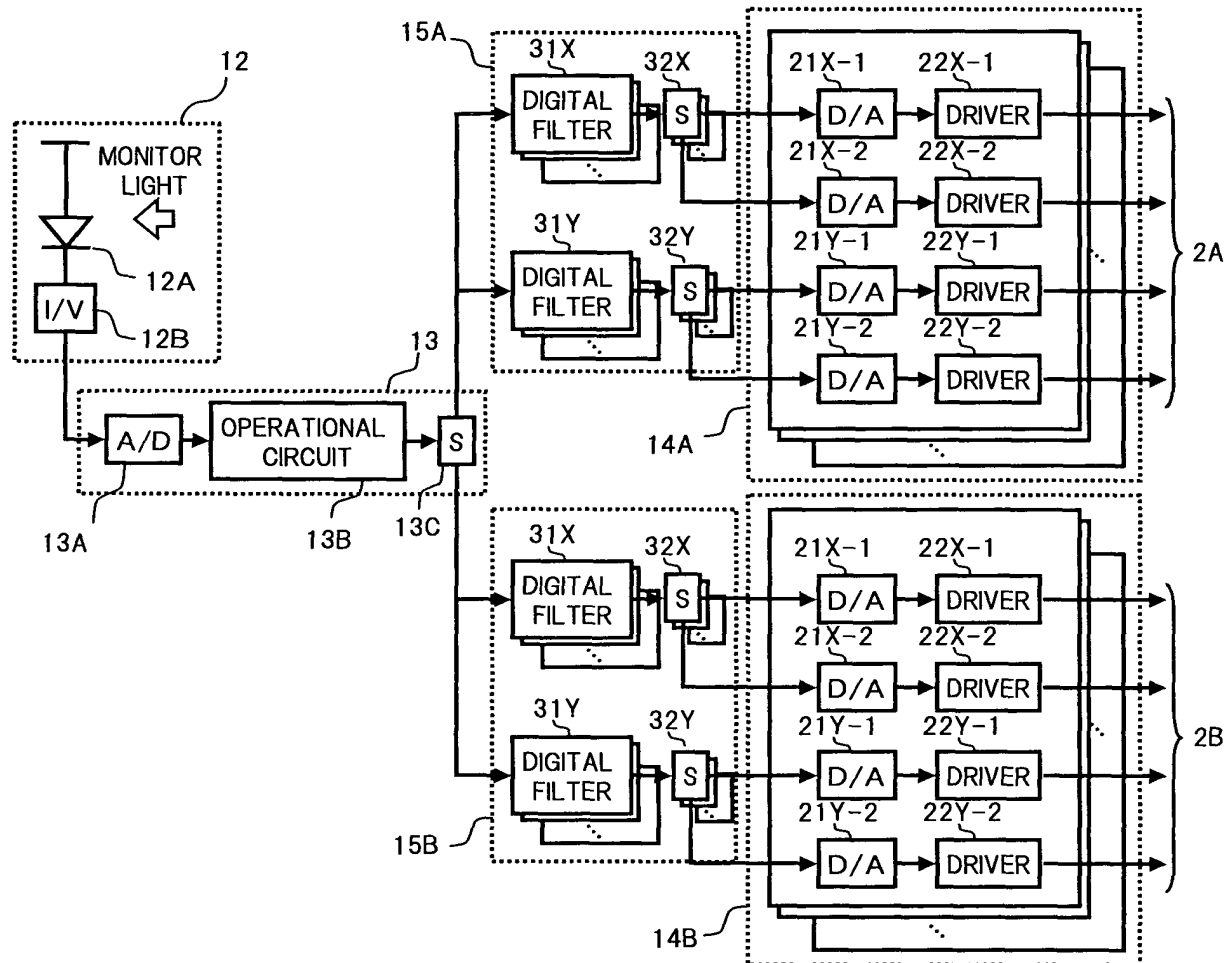


FIG.2

OVERALL CONFIGURATION OF OPTICAL SIGNAL EXCHANGER APPLIED  
WITH CONTROL APPARATUS OF PRESENT INVENTION

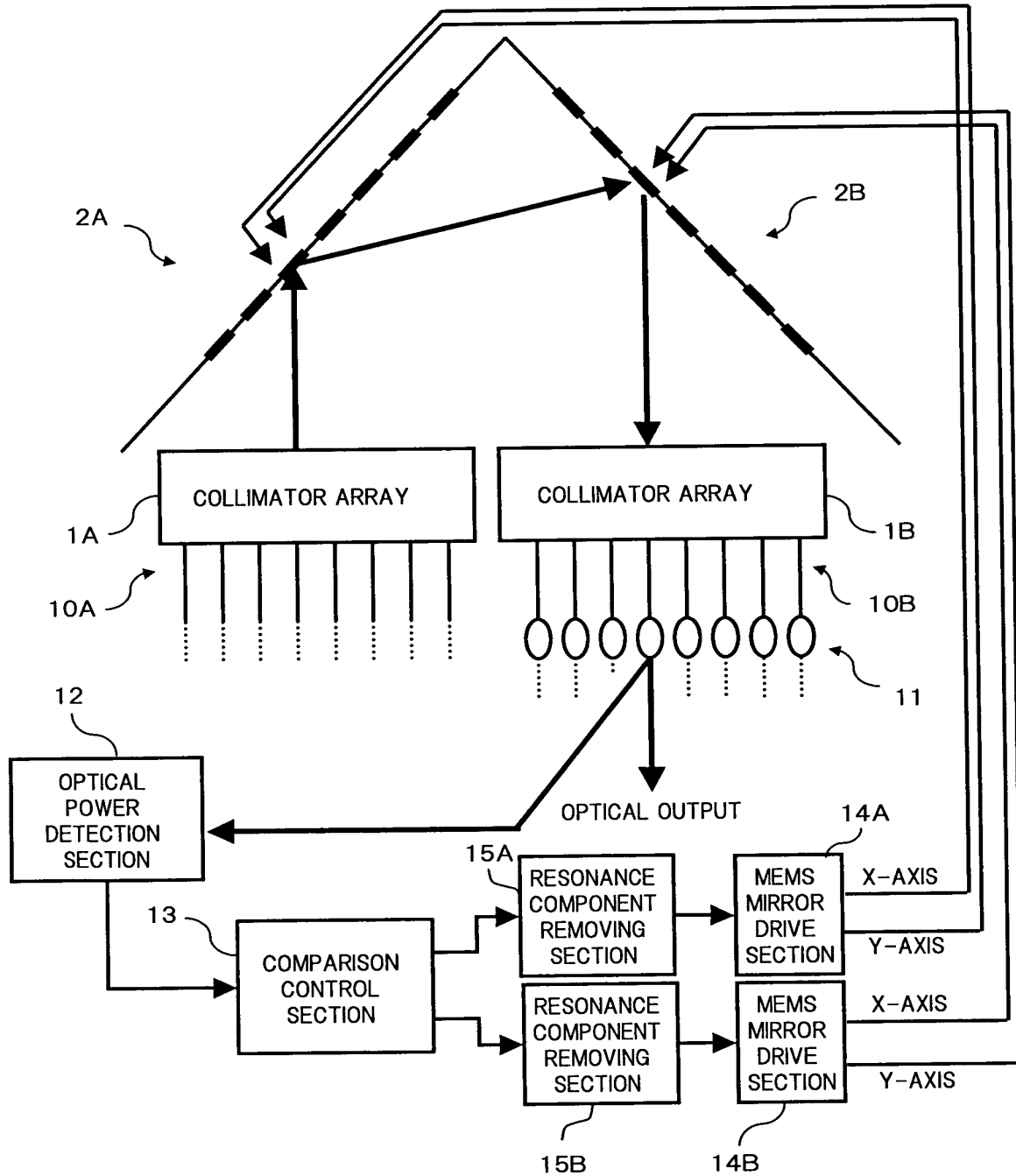


FIG.3

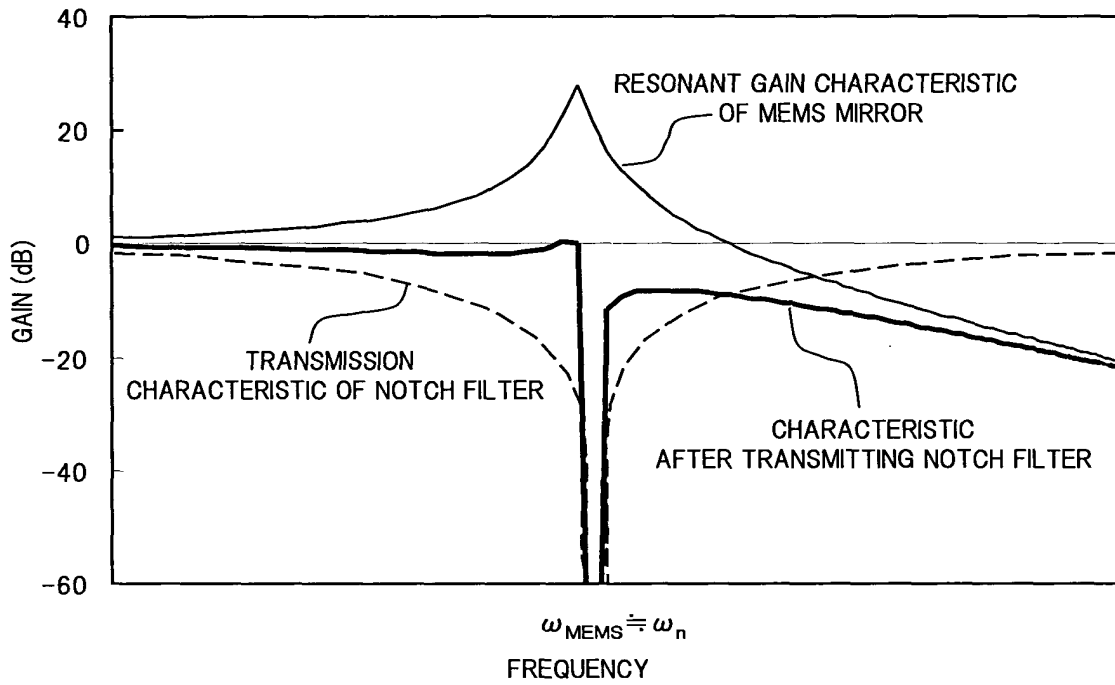


FIG.4

MAIN CONFIGURATION OF CONTROL APPARATUS ACCORDING  
TO SECOND EMBODIMENT OF PRESENT INVENTION

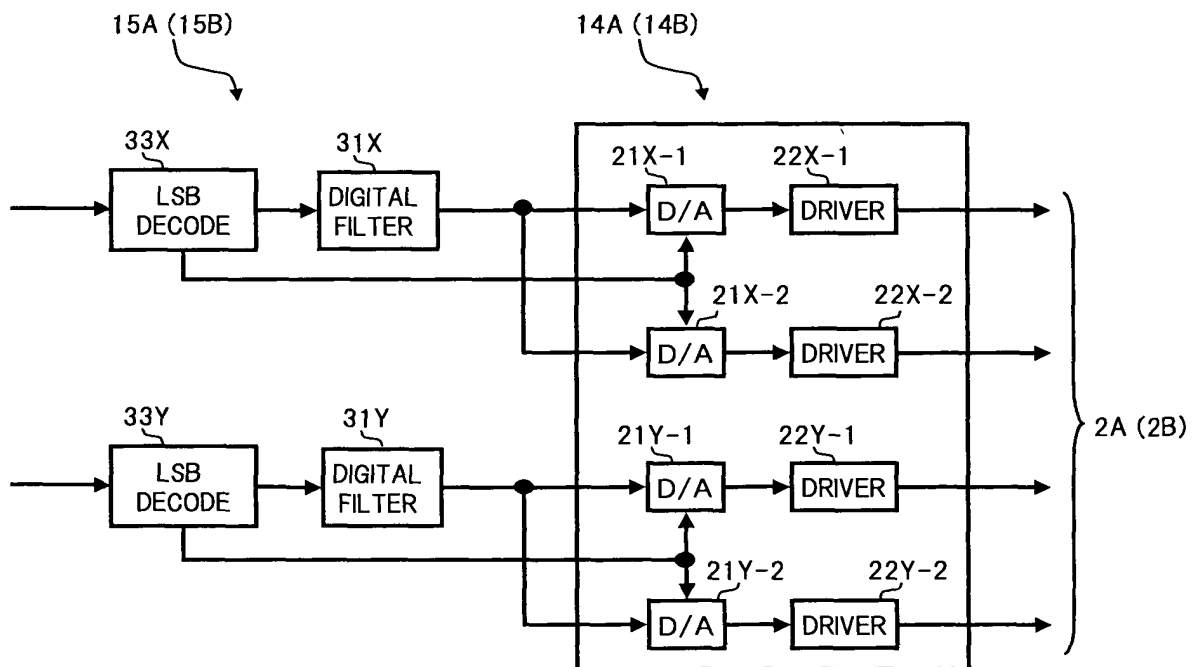


FIG.5

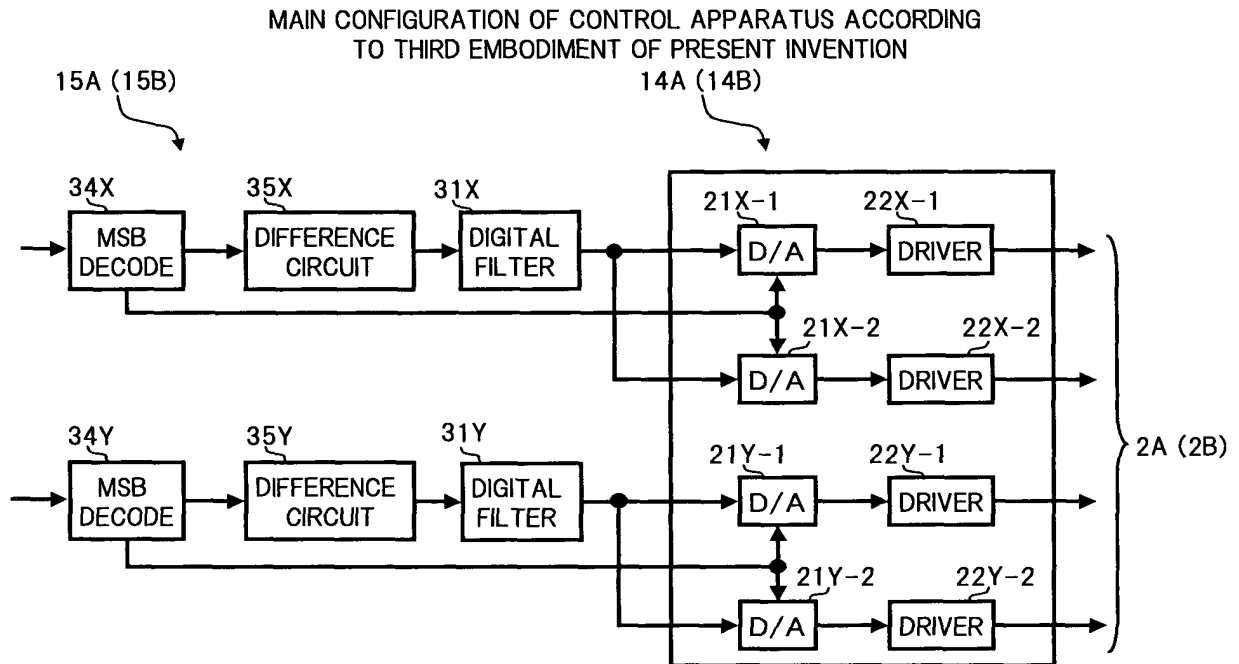


FIG.6

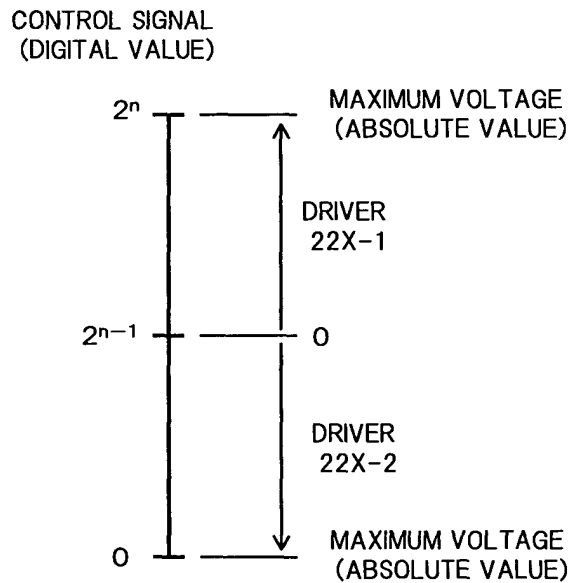


FIG. 7

MAIN CONFIGURATION OF CONTROL APPARATUS ACCORDING  
TO FOURTH EMBODIMENT OF PRESENT INVENTION

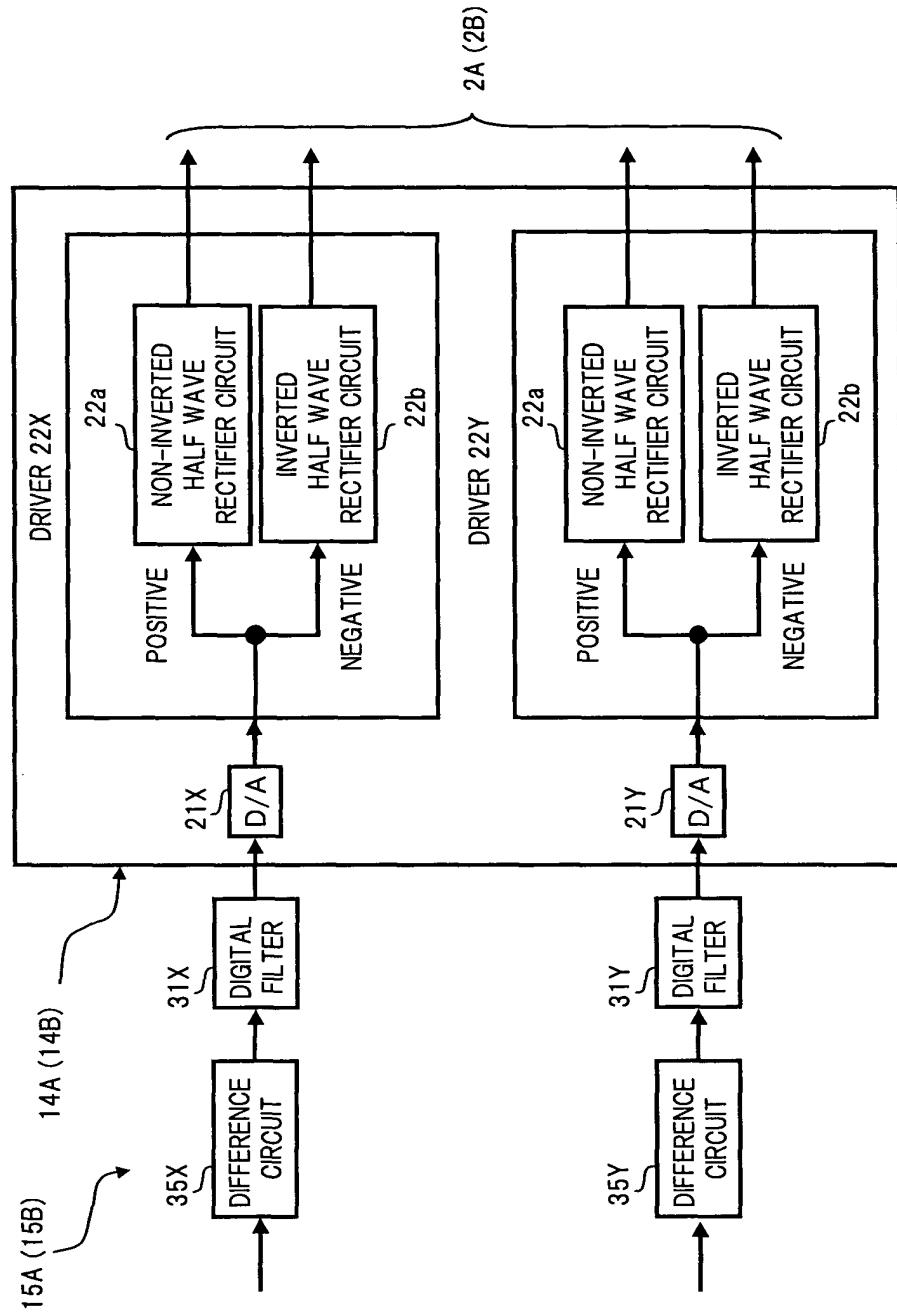


FIG.8

## APPLICATION EXAMPLE OF FOURTH EMBODIMENT

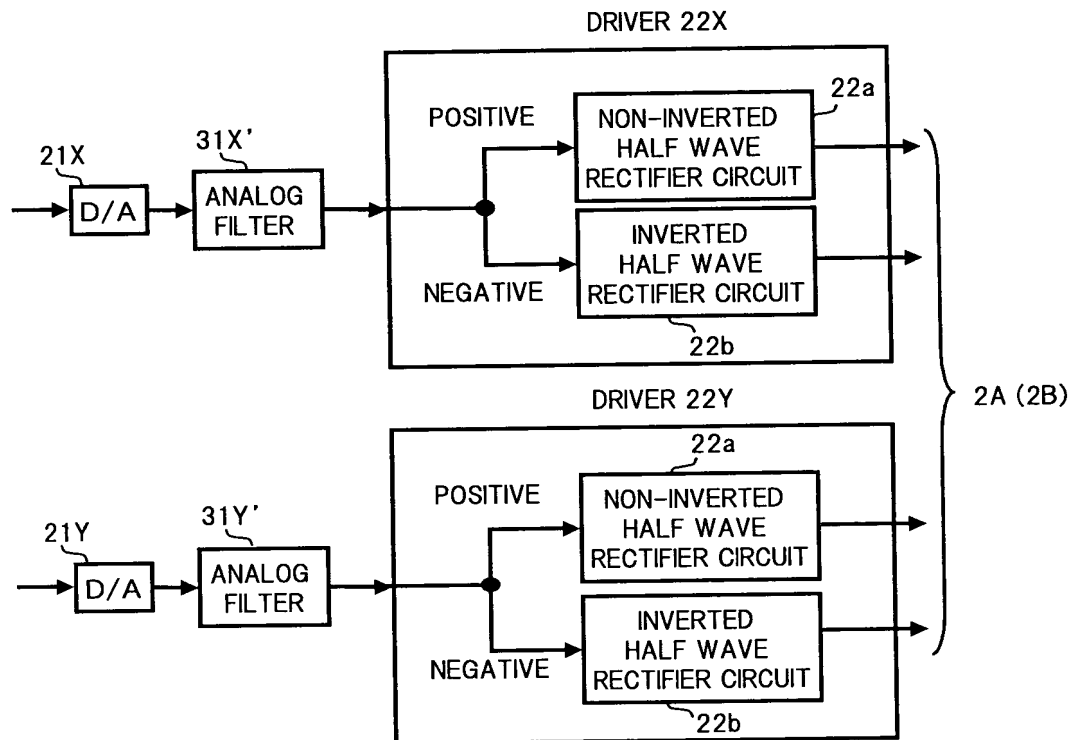


FIG.9

CONTROL APPARATUS ACCORDING TO FIFTH EMBODIMENT OF PRESENT INVENTION

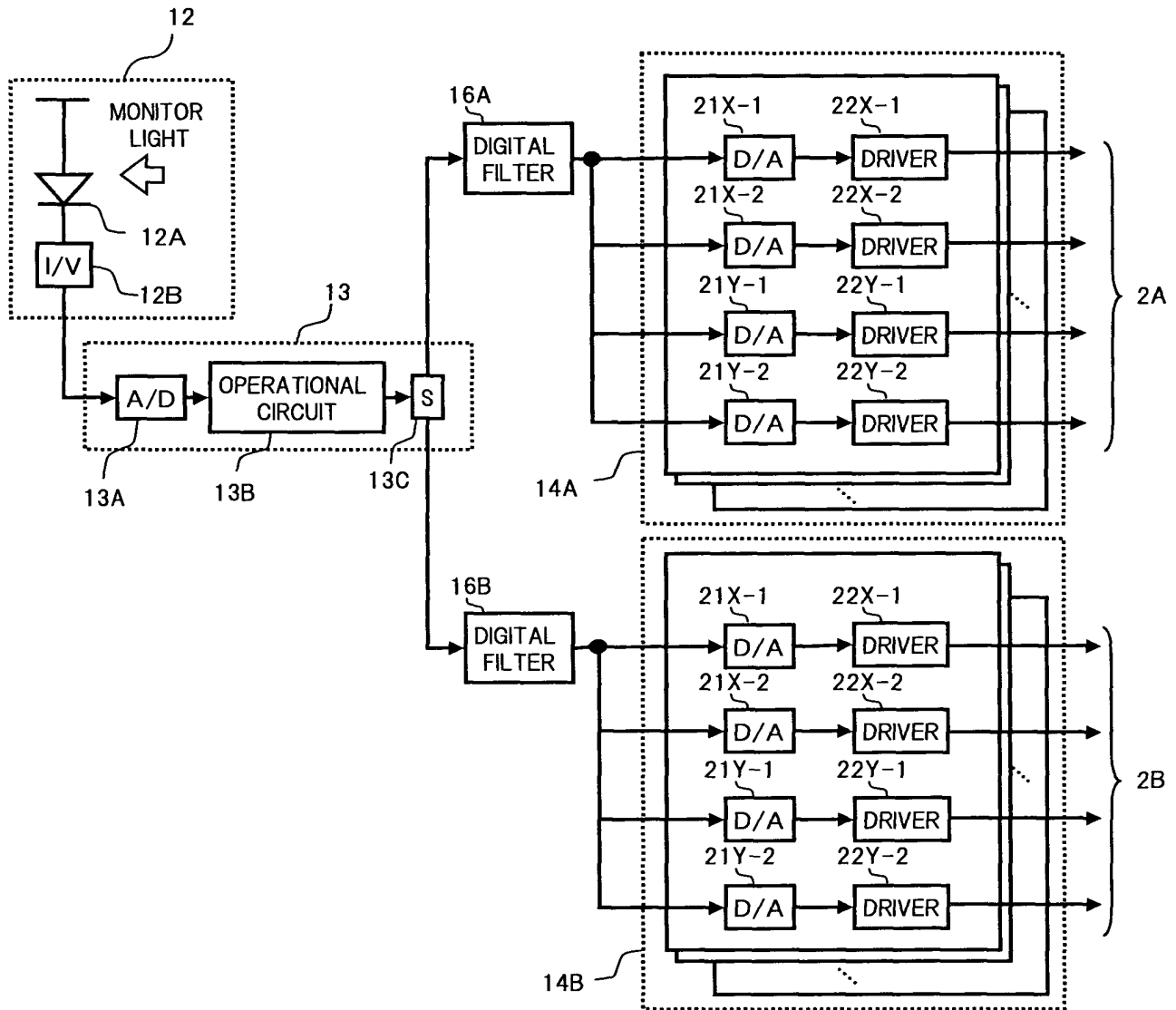


FIG.10

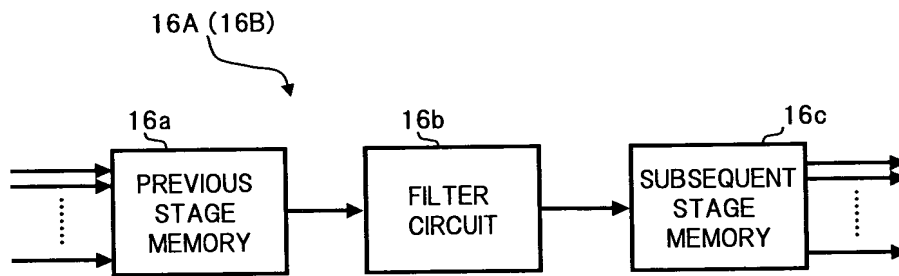
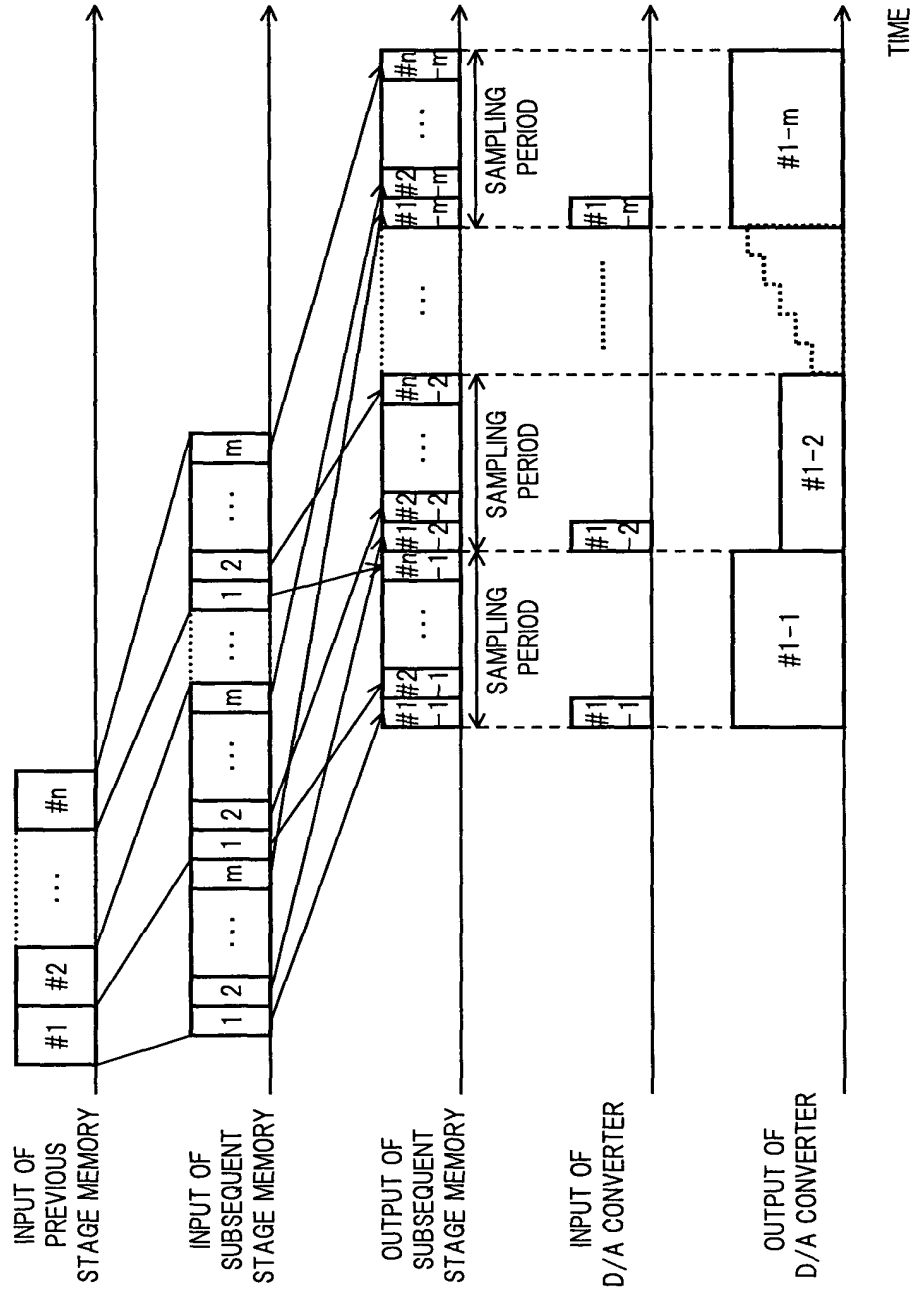
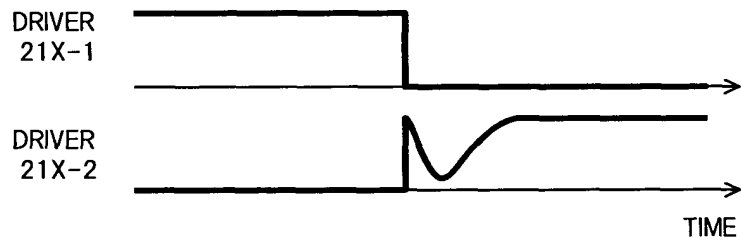


FIG.11



## FIG.12

EXAMPLE OF DRIVING WAVEFORM AT TIME OF SWITCHING  
DRIVER IN FIRST TO FIFTH EMBODIMENTS OF PRESENT INVENTION



## FIG.13

EXAMPLE OF DRIVING WAVEFORM AT TIME OF SWITCHING  
DRIVER IN SIXTH EMBODIMENT OF PRESENT INVENTION

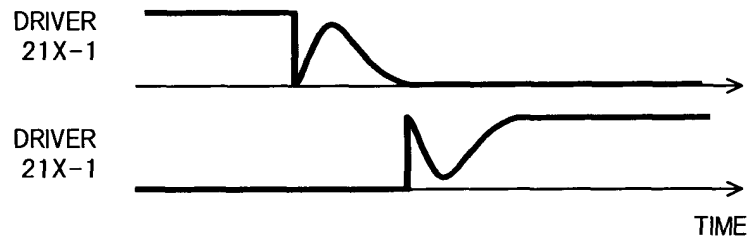
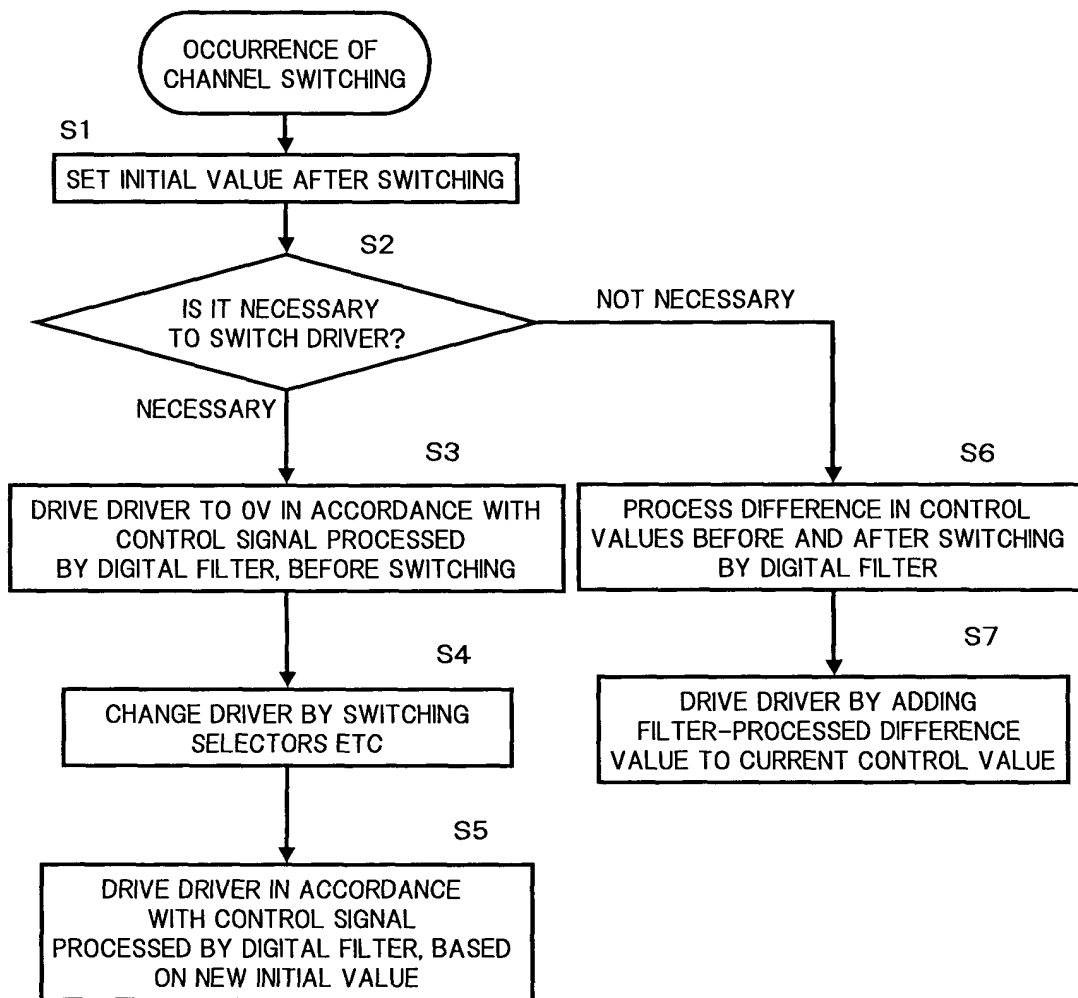


FIG.14

CONTROL FLOW IN SIXTH EMBODIMENT  
OF PRESENT INVENTION

## FIG.15

EXAMPLE OF DRIVING WAVEFORM WHEN SWITCHING OF DRIVER IS NOT NECESSARY

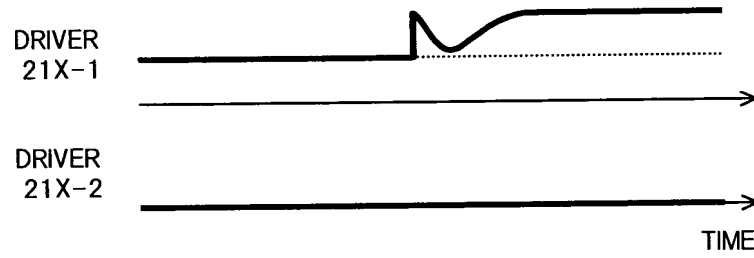


FIG.16

MAIN CONFIGURATION OF CONTROL APPARATUS  
ACCORDING TO SEVENTH EMBODIMENT OF PRESENT INVENTION

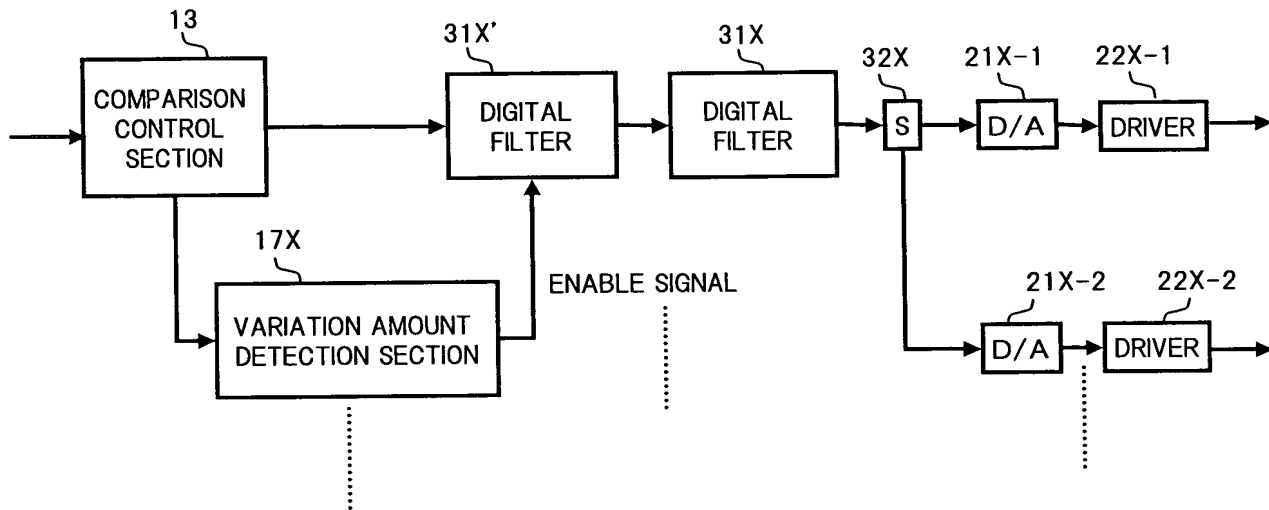


FIG.17

MAIN CONFIGURATION OF RESONANCE COMPONENT REMOVING  
SECTION IN EIGHTH EMBODIMENT OF PRESENT INVENTION

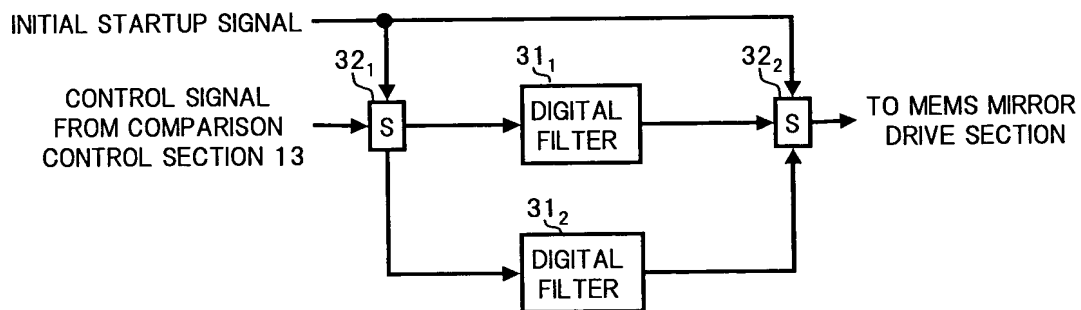


FIG.18

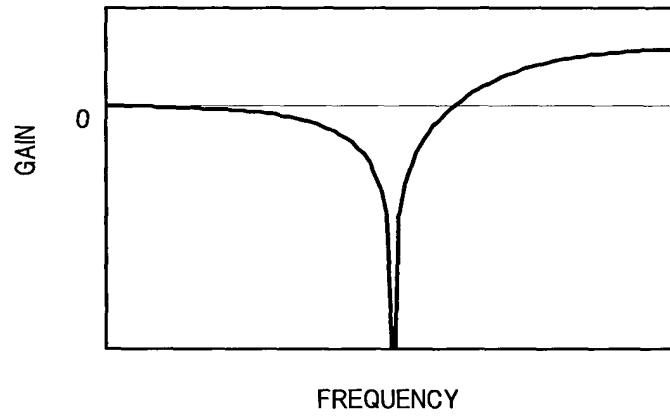


FIG.19

RESPONSE CHARACTERISTIC OF DRIVER

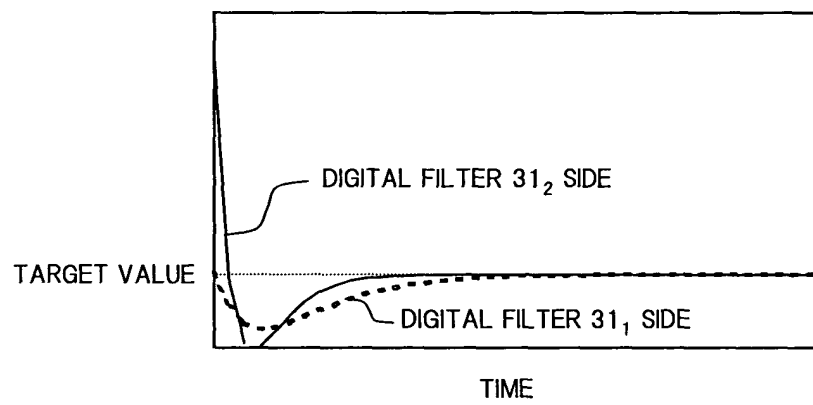


FIG.20

RESPONSE CHARACTERISTIC WHEN TRANSFER FUNCTIONS  
OF MEMS MIRROR AND DIGITAL FILTER ARE COMBINED

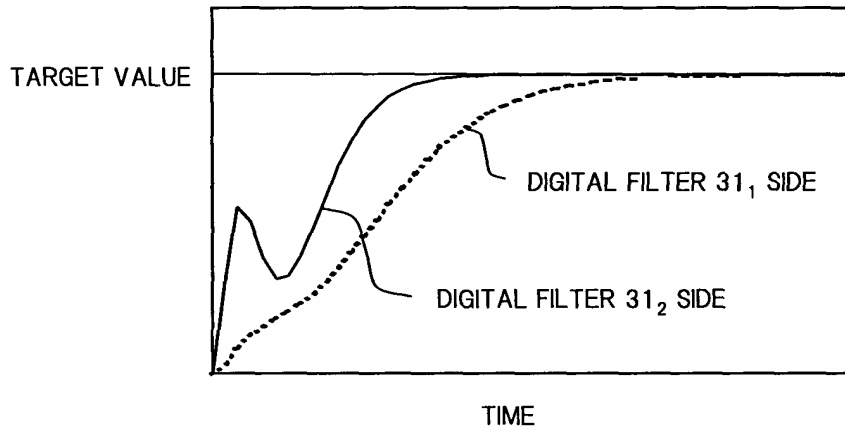


FIG.21

APPLICATION EXAMPLE IN EIGHTH EMBODIMENT OF PRESENT INVENTION

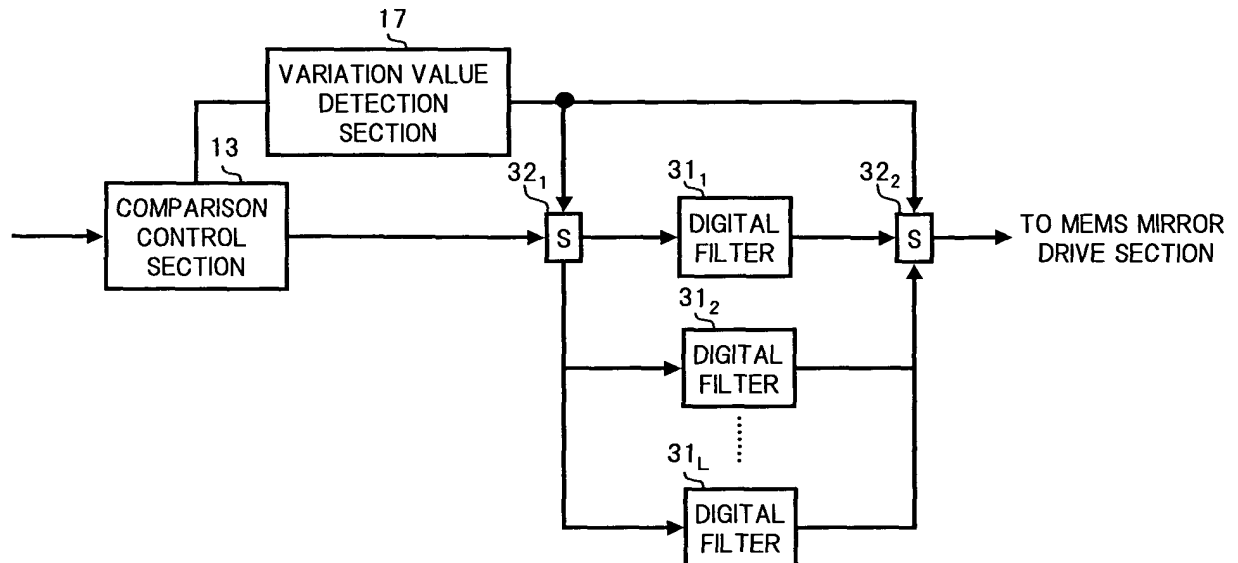


FIG.22

OTHER APPLICATION EXAMPLE IN EIGHTH EMBODIMENT  
OF PRESENT INVENTION

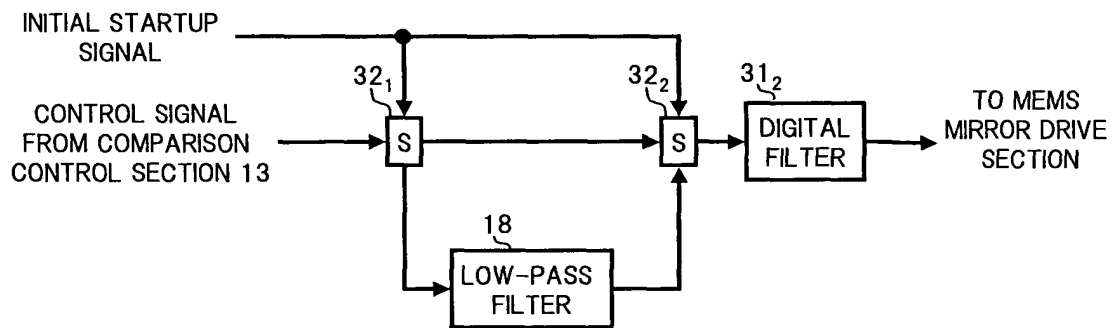


FIG.23

CONFIGURATION EXAMPLE OF TYPICAL OPTICAL SIGNAL  
EXCHANGER OF THREE-DIMENSIONAL TYPE

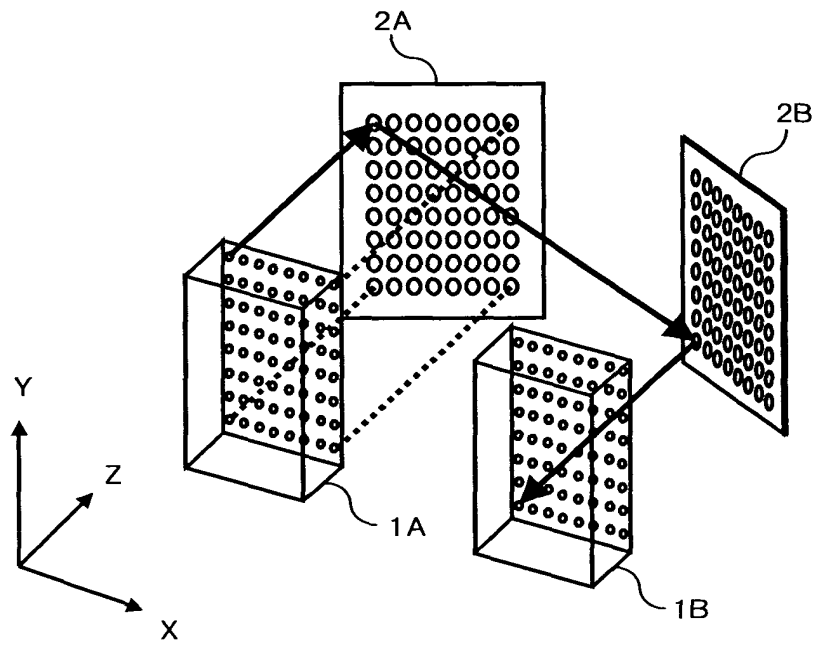


FIG.24

CONFIGURATION EXAMPLE OF CONVENTIONAL CONTROL APPARATUS  
FOR REDUCING OPTICAL LOSS TO MINIMUM

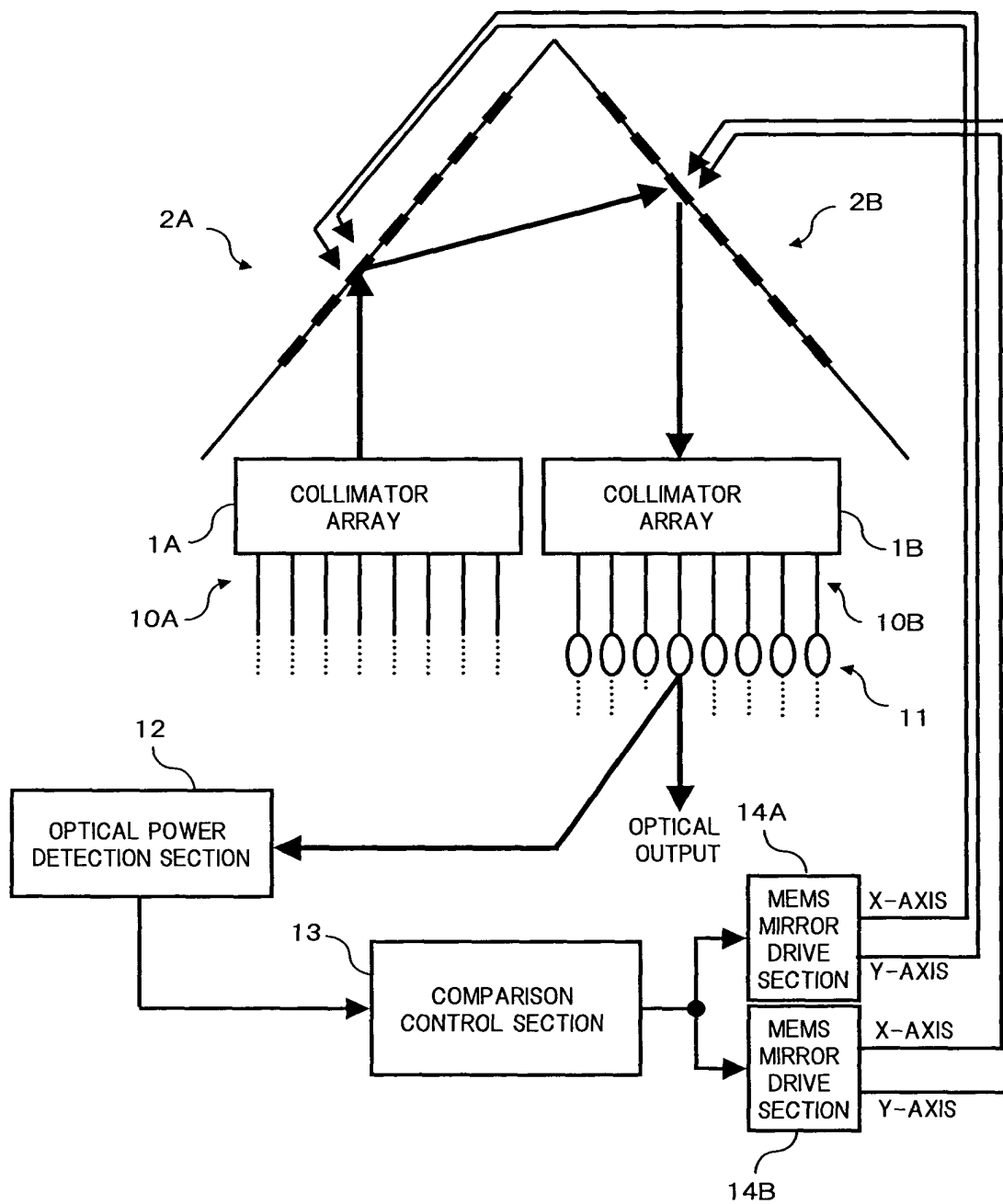


FIG.25

SPECIFIC EXAMPLE OF CONVENTIONAL CONTROL APPARATUS

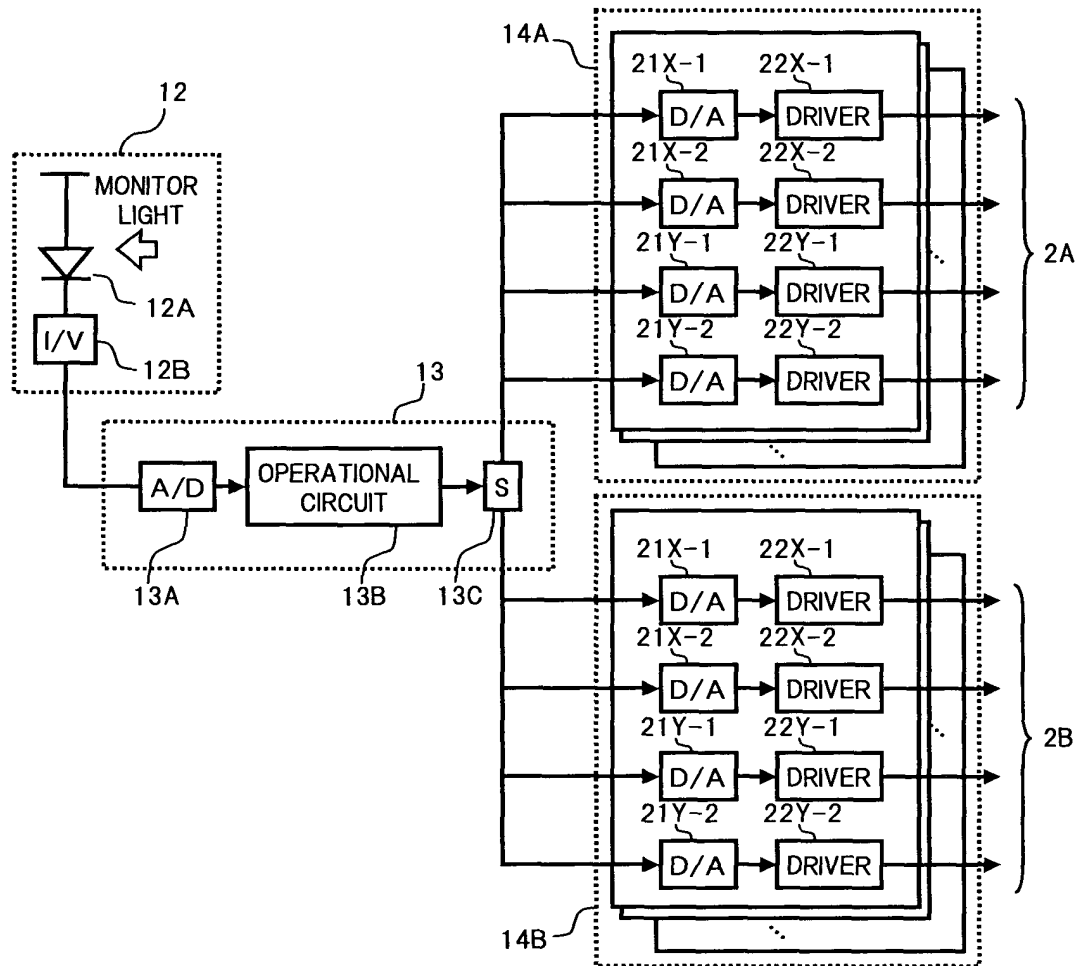


FIG.26

DRIVING STATE OF TYPICAL MEMS MIRROR

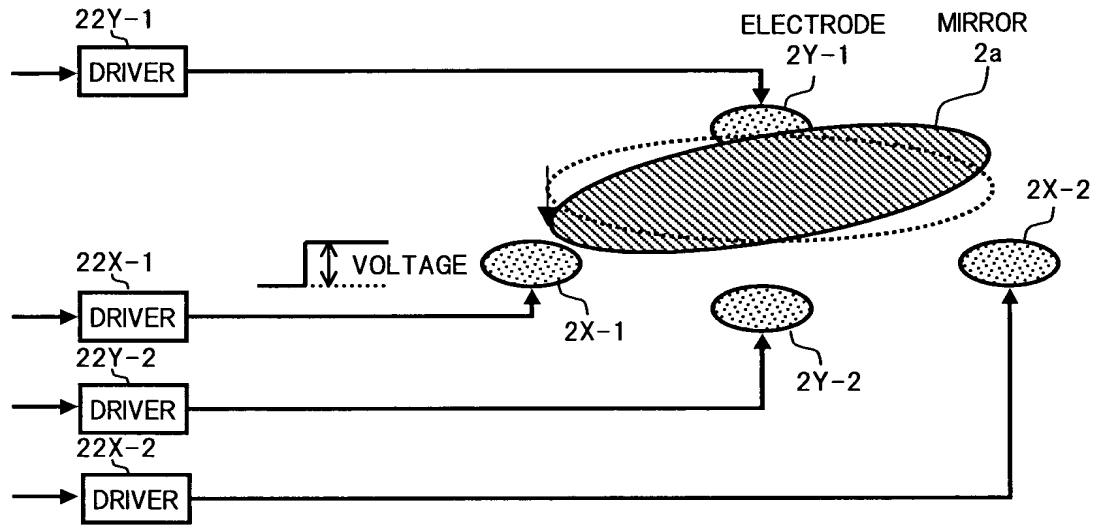


FIG.27

